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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,641	01/16/2004	Han-Ming Wu	42P10058D	1204

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EXAMINER	
NGUYEN, HUNG	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/759,641	WU ET AL.	
	Examiner	Art Unit	
	Hung Henry V. Nguyen	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51,52,54,55 and 64-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *68* is/are allowed.

6)☒ Claim(s) *51,52,54,55,64-67 and 69-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/16/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 78 and 80 are rejected under 35 U.S.C. 102(e) as being anticipated by Shirasaki (U.S.Pat. 6,593,034).

With respect to claim 78, Shirasaki discloses an apparatus and corresponding method comprising substantially all limitations of the instant claims such as: adding a first gas/inert gas to an enclosure (10) filled with a second gas/air through one slit (6) wherein the first gas is inert gas (for example: nitrogen) which has less total oxygen and carbon than the second gas which is air and the first gas/inert gas having a different gas composition than the second gas/air (see col.4, lines 58-64), and the enclosure (10) being between a mask protective device (1), a

patterned mask (5) and a wall (2) connecting the mask protective device with the pattern mask and removing the second gas from the enclosure through one outlet port (see col. 3, lines 58-67). Applicant argues that Shirasaki does not suggest "adding a first gas to an enclosure having a second gas through one or more slits aligned with a length of a side of the enclosure to distribute a flow of the first gas over the length of the side of the enclosure"; the Examiner respectfully disagrees with the applicant. Due to the alternative recitation of "one or more slits", Shirasaki therefore meets the recitation as claimed since Shirasaki discloses adding a first gas/inert gas to an enclosure (10) filled with a second gas/air through one slit (6) aligned with a length of a side of the enclosure (10) to distribute a flow of the inert gas/first gas over the length of the side of the enclosure (see figure 2).

As to claim 80, Shirasaki teaches removing the second gas including removing the second gas through one slit (6) or "to a gas-discharge line (not shown in the figure)" (see col.4, lines 50-51).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 51-52, 64-66, 69-72, 74-76 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki (U.S.Pat. 6,593,034) in view of Shirakawa et al (U.S.Pat. 6,380,518).

With respect to claims 51-52, 64-66, 69-72 ,74-76, and 79, Shirasaki discloses an apparatus and corresponding method comprising substantially all limitations of the instant claims such as: adding a first gas/inert gas to an enclosure (10) filled with a second gas/air through a vent (6) wherein the first gas is inert gas (for example: nitrogen) which has less total oxygen and carbon than the second gas which is air and the first gas/inert gas having a different gas composition than the second gas/air (see col.4, lines 58-64), and the enclosure (10) being between a mask protective device (1), a patterned mask (5) and a wall (2) connecting the mask protective device with the pattern mask and removing the second gas from the enclosure through the vent (see col.3, lines 60-67). Shirasaki does not expressly disclose the inlet port having "a plurality of discrete openings arranged" or "at least five openings" or "a vent including a plurality of openings" to distribute a flow of the first gas over a length of a side of the enclosure, as recited in the claims of the present application. However, Shirasaki suggests adding the first gas through "at least one but not all of the gas-passage openings in the pellicle frame and discharging the gas through the rest of the gas-passage openings" (see col.3, lines 62-67). Furthermore, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art, *St. Regis Paper Co.v. Bemis Co.*, 193 USPQ 8. For example, Shirakawa et al (figure 7) teaches supplying gas into a chamber via a gas supply system (91) having a plurality of discrete ports (63) and removing the gas via an exhaust mechanism (92) having a plurality of exhaust discrete ports (66a, 66b). In view of such suggestion and

teachings, it would have been obvious to a skilled artisan to utilize an inlet port having a plurality of discrete openings" or "at least five openings" as taught by Shirakawa on a same side of the enclosure of Shirasaki for adding the first gas into the enclosure. The at least purpose of doing so would have been to quickly supply the gas to the enclosure and to equalize pressure of the supplied gas across the pellicle whereby the distortion of the pellicle can be prevented.

5. Claims 54-55 and 73, 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki (U.S.Pat. 6,593,034) in view of Shirakawa et al (U.S.Pat. 6,380,518) and further in view of Ivaldi (U.S.Pat. 6,507,390).

As to claims 54 and 77, Shirasaki as modified by Shirakawa, discloses a method comprising substantially all of the limitations of the instant claims as discussed above. Shirasaki as modified by Shirakawa lacks to show removing the second gas by vacuum. Ivaldi teaches a vacuum source (418) for removing the second gas/air. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Shirasaki, Shirakawa and Ivaldi to obtain the invention as specified in claims 54 and 77 of the present invention. It would have been obvious to a skilled artisan to utilize a vacuum source as taught by Ivaldi into the method of Shirasaki as modified by Shirakawa et al for the purpose of removing the second gas from the enclosure.

As to claims 55, and 73, Shirasaki as modified by Shirakawa and Ivaldi, lacks to show the inlet opening being smaller than the outlet opening. However, such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237

(CCPA 1955). Furthermore, Ivaldi suggests that "the purge gas is inserted at a rate slowly enough so as not to cause substantially distortion to reticle 104 and or pellicle 206" (see col.8, lines 15-17). In view of such teachings, it would have been obvious to a skill artisan to make the inlet opening smaller than the outlet opening so that the rate of the second gas/purge gas supplied to the enclosure is slower than the rate of the second gas removed from the enclosure. The purpose of doing so would have been to prevent the pressure of the enclosure from being so high that could damage the reticle and or pellicle as suggested by Ivaldi.

6. Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki (U.S.Pat. 6,593,034) in view of Shirakawa et al (U.S.Pat. 6,380,518) and further in view of Shimada (U.S.Pat. 5,735,961).

With respect to claim 67, Shirasaki as modified by Shirakawa, discloses a method comprising substantially all of the limitations of the instant claims as discussed above but does not expressly disclose adding the first gas to the enclosure by diffusion and/or removing the second gas from the enclosure by diffusion. However, suitable gas supply system and purge gas system using pressure, diffusion or vacuum, are well known in the art. For example, Shimada teaches a semiconductor fabricating apparatus where the inert gas is supplied to a chamber by diffusion fashion (see col.2, lines 13-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Shimada, Shirasaki and Shirakawa to obtain the invention as specified in the above claim of the instant application. It would have been obvious to a skilled artisan to add and remove the first gas and second gas from the enclosure of Shirasaki as modified by Shirakawa by using diffusion fashion as

suggested by Shimada for at least the purpose of effectively eliminating distortion of either the mask or mask protective device due to pressure changes.

Allowable Subject Matter

7. Claim 68 is allowed.

Response to Amendment/Arguments

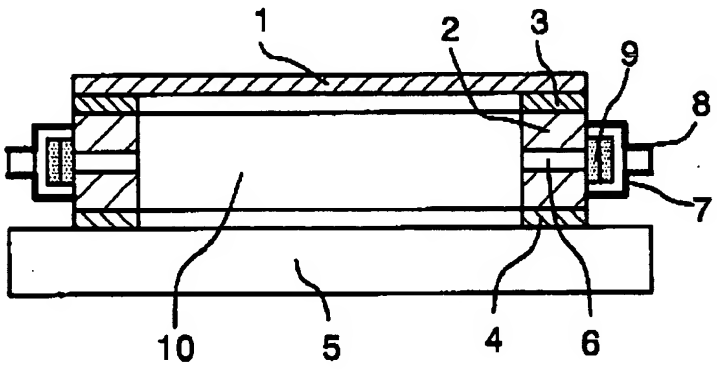
8. With respect to prior art rejections, Applicant's argument filed July 5, 2006 has been carefully reviewed but they are not found persuasive. The applicant is reminded that the claimed subject matter to examination will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not be read into the claims. In re Yamamoto, 740 F. 2d 1569, 1571, 222 USPO 934, 936 (Fed.Cir. 1984).

With this in mind, the discussion herein will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitation that is not in the claims or any argument that is irrelevant to or does not relate to any specific claimed language will not be warranted.

Regarding rejection of claims 78 and 80 under 35 U.S.C. 102(e) under the reference of Shirasaki, firstly, Applicant argues that Shirasaki does not teach or suggests that the openings are slits. Applicant argues that the openings of Shirasaki are circular holes; the Examiner respectfully disagrees with the applicant. There is no error in stating that the opening (6) of Shirasaki can be regarded as "one or more slits" as recited in the claims 78 and 80 because in

general, the definition of a "slit" is "a long narrow cut or **opening**" (see Merriam Webster's Collegiate Dictionary, Tenth Edition, page 1105).

Secondly, applicant argues that "Shirasaki does not teach or suggest that the holes be aligned with a length of a side of the enclosure to distribute a flow of the first gas over the length of the side of the enclosure"; the Examiner disagrees with the applicant since it is not quite true. Claim 78 calls for an alternative recitation of "adding a first gas....through **one or** more slits aligned with a length of a side of the enclosure to distribute a flow of the first gas over the length of the side of the enclosure". As clearly shown in figure 2 of Shirasaki, the openings (6) are aligned with the length of the enclosure (10) to perform the function as claimed.



With respect to claims 51-52, 64-66, 69-72 and 79, the Applicant has responded to the 35 U.S.C. 103(a) rejection under the references of Shirasaki and Shirakawa, by commenting that there is no motivation to combine Shirasaki with Shirakawa and there is not reasonable expectation that such a combination would be successful. The Examiner respectfully disagrees with the applicant.

In response to Applicant's arguments that there is no motivation to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there

must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Noviya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA). The case law is rather clear on this point. For example, In re Basecom, 109 USPQ at 100 states:

> The proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and the overriding question to be determined is whether those concepts would suggests to one skilled in the art the modification called for by the claims. IN re Ewald, 26 C.C.P. A (Patents) 1312, 104 F.2d 622, 42 USQP 35. In re Merkle, 32 C.C.P.A (Patents) 1151, 150 F.2d 445, 66 USPQ 165.

In this case, with respect to claims 1, 5, 11, 16-18, 22-24, as discussed above, the combination of Shirasaki and Shirakawa, as a whole, discloses all of the limitations of the instant claims. The Applicant is ignoring the combination suggested by the teachings of the references and addresses the individual references. Even there, however, the Applicant has mischaracterized the disclosure of the references. The independent claims addressed by the Examiner are extremely simple. In essence, the claims recite utilizing a plurality of discrete openings arranged" or "at least five openings" or "a vent including a plurality of openings" to distribute a flow of the first gas over a length of a side of the enclosure. As noted in the prosecution history, Shirasaki teaches adding a first gas/inert gas to an enclosure (10) filled with a second gas/air through a vent (6) wherein the first gas is inert gas (for example: nitrogen) which has less total oxygen and carbon than the second gas which is air and the first gas/inert gas

having a different gas composition than the second gas/air (see col.4, lines 58-64), and the enclosure (10) being between a mask protective device (1), a patterned mask (5) and a wall (2) connecting the mask protective device with the pattern mask and removing the second gas from the enclosure through the vent. As discussed, Shirasaki does not expressly disclose the inlet port having "a plurality of discrete openings arranged" or "at least five openings" or "a vent including a plurality of openings" to distribute a flow of the first gas over a length of a side of the enclosure, as recited in the claims of the present application. However, this feature is well known in the art (emphasis applied). The clear evidence is: Shirakawa et al (figure 7) teaches a substrate processing system where the supplying gas is provided into a chamber via a gas supply system (91) having a plurality of discrete ports (63) "for supplying a gas along the substrate so as to cover the substrate" (see abstract) and the gas is removed via an exhaust mechanism (92) having a plurality of exhaust discrete ports (66a, 66b). Since the rejection is made under 35 U.S.C. 103(a) the issue here is whether or not, one having ordinary skill in the art in the possession of Shirasaki would have used the plurality of discrete openings (63) of Shirakawa to supply the gas into the enclosure (10) and would have used the plurality of discrete openings (66a, 66b) to exhaust the gas from the enclosure. It is apparent to the Examiner that the artisan viewing Shirasaki and wanting to supply the gas or to remove of the gas from the enclosure (10), would clearly have suggested the use of a plurality of discrete ports as taught by Shirakawa for at least the purpose of supplying gas along the reticle so as to cover the reticle (see abstract of Shirakawa).

In response to applicant's argument that the examiner's conclusion of combining is based upon applicant's disclosure, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Furthermore, in this case, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art, *St. Regis Paper Co.v. Bemis Co.*, 193 USPQ 8. The Examiner fails to find applicant's arguments convincing that the claimed invention would have been unobvious to a skilled artisan based on the cited references as discussed.

With respect to dependent claims 54-55, 73 and 77, it is noted that the applicant does not separately argue the patentability of these claims. Thus, the Examine assumes that dependent claims are not additionally patentable over and above the patentability of independent claims.

All arguments raised by the applicant have been fully addressed and traversed. For the reasons set forth above, the rejections of the mentioned claims are maintained.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
9/8/06